

UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF OKLAHOMA

STATE OF OKLAHOMA, ex. rel. W.A. DREW
EDMONDSON, in his capacity as ATTORNEY
GENERAL OF THE STATE OF OKLAHOMA
and OKLAHOMA SECRETARY OF THE
ENVIRONMENT, J.D. Strong, in his
capacity as the TRUSTEE FOR NATURAL
RESOURCE FOR THE STATE OF
OKLAHOMA

Plaintiffs,

v.

TYSON FOODS, INC., TYSON
POULTRY, INC., TYSON CHICKEN, INC.,
COBB-VANTRESS, INC., AVIAGEN, INC.,
CAL-MAINE FOODS, INC., CAL-MAINE
FARMS, INC., CARGILL, INC., CARGILL
TURKEY PRODUCTION, LLC, GEORGE'S
INC., GEORGE'S FARMS, INC., PETERSON
FARMS, INC., SIMMONS FOODS INC., and
WILLOW BROOK FOODS, INC.,

Defendants.

Case No. 05-CV-329-GKF-PJC

ERRATA

William H. Desvousges, Ph.D.



Gordon C. Rausser, Ph.D.





ERRATA

In order to understand the factors that affect visitation to COE lakes in Oklahoma, we developed a regression model using lake characteristics. Since our first report was submitted on March 31, 2009, we corrected some mistakes in the data, which generated new regression results.

Characteristics describing water quality, facilities, lake characteristics, and distance from population centers are used to explain the level of visitation. Specifically, we use 21 COE lakes in Oklahoma that have data on lake levels. Measurements of water clarity were obtained from the Oklahoma Water Resources Board. Lake characteristic data were obtained from the COE Tulsa district website. Visitation data were provided by the COE Institute for Water Resources for the years 2000 to 2007. Table 1 is amended to provide more in-depth information on the data sources for each variable. All the facilities data were available on the COE Tulsa district website and the Oklahoma Tourism website.¹

Regression Model

The information below relates to the revised regression model.

Table 1: Variables Included in the Model

Variable Names	Description	Sources
Visits	The number of visits from 2000 to 2007 to each lake	Army Corps of Engineers (Visits FY07to00.xls)
Meanclearity	The average water clarity measurement in a lake for the year (cm)	Oklahoma Water Resources Board (Water Clarity Data from OK WRB.xls)
Lakelevel	The average deviation from normal in the months of June, July and August (feet)	http://www.swt.usace.army.mil/ An Excel spreadsheet was generated to calculate deviation. (Rainfall and Lake Level Data Analysis.xls)

¹ The data sources and explanations are provided as considered by materials to the errata.

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Variable Names	Description	Sources
Campsites	The number of campsites on the lake	http://www.lasr.net/travel/ A Word document was generated with information on each lake in the Stata model. (Parks and Campsites at Corp of Engineers Lakes.doc)
boatramps	The number of boat ramps on the lake	http://corpslakes.usace.army.mil/visitors/visitors.cfm A Word document was generated with information on each lake in the Stata model. (Recreation facilities.doc)
shoreacres	The ratio of shoreline miles to lake acres (miles/acre)	http://www.outdoorsok.com/Oklahoma/Lakes A Word document was generated with information on each lake in the Stata model. (Shoreline and Acres Information.doc)
statepark	0,1 indicating the presence of a state park on the lake.	http://www.lasr.net/travel/ A Word document was generated with information on each lake in the Stata model. (Parks and Campsites at Corp of Engineers Lakes.doc)
distance	Distance from the closest metropolitan area (Tulsa, Oklahoma City) (miles)	Google Maps was used to map the distance to the closest metropolitan area.
lakedepth	Normal water elevation as indicated by the Corp of Engineers (feet)	http://www.swt.usace.army.mil/ Lake depth is found in the recreation information for each lake.

Table 2 presents the revised regression results. The revised model now explains more than three quarters of the variation in visitation levels. The model also shows that deeper lakes receive more visits. The revised results show that lakes with more facilities, such as campsites and state parks, have higher levels of visitation. Lakes with a higher ratio of shoreline to lake acres receive fewer visitors. These would be narrower lakes with many bays and inlets. The number of boat ramps also significantly influences the level of visitation. These results are similar to the earlier model with the exception of lake depth now being significant. Our revised analysis indicates that mean water clarity significantly affects visitation. Sites with clearer water have higher levels of visitation. Tenkiller Lake had the second highest level of water clarity in the sample during the time period. The revised model results also show that there is no significant time trend in visitation across the sites. These results provide further support for our conclusion that recreation at Tenkiller Lake has not been

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impacted by reductions in water quality and that recreators have not experienced any potential losses from alleged injuries attributable to increased phosphorous loadings from the application of poultry litter.

Table 2: Recreation Model Results

Obs = 168

R-square=0.7871

Invisits	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
meancularity	.0065448	.0010212	6.41	0.000	.0045272	.0085624
lakelevel	-.0195639	.0195341	-1.00	0.318	-.0581573	.0190296
campsites	.000897	.0003485	2.57	0.011	.0002085	.0015854
boatramps	.2332736	.0222238	10.50	0.000	.1893662	.2771811
shoreacres	-18.05065	4.759914	-3.79	0.000	-27.45479	-8.646519
Indistance	-.1738894	.0635613	-2.74	0.007	-.2994672	-.0483116
statepark	.5552845	.1015495	5.47	0.000	.3546538	.7559152
lakedepth	.0008818	.0001507	5.85	0.000	.0005841	.0011795
y2001	-.0123386	.1610189	-0.08	0.939	-.3304626	.3057854
y2002	.0045231	.1590731	0.03	0.977	-.3097567	.318803
y2003	-.0623638	.1605683	-0.39	0.698	-.3795975	.25487
y2004	.0120021	.1592816	0.08	0.940	-.3026896	.3266937
y2005	-.1839022	.1597673	-1.15	0.252	-.4995536	.1317491
y2006	-.294597	.1616463	-1.82	0.070	-.6139606	.0247666
y2007	-.1779248	.202099	-0.88	0.380	-.5772106	.221361
cons	11.13219	.4299703	25.89	0.000	10.2827	11.98168